

6.2.1 Yolo Bypass Fisheries Enhancement

Major impacts on agriculture from Yolo Bypass Fisheries Enhancement will come from the potential acquisition of lands through fee-title or conservation and flood easements. The largest source of revenue in the affected conservation zone comes from rice fields located along the northern region of the Yolo Bypass, and the use of rangeland could also be impacted. Table 22 estimates current Yolo Bypass crop production excluding grazing land, which might add another \$500,000 to the total of \$27.1 million. Total agricultural revenue in the Legal Delta area is currently estimated at about \$11 million. However, the majority of high-value rice fields is located in the area of the Yolo Bypass north of the Legal Delta, and is estimated to generate almost \$16 million in annual revenue and could experience the most significant direct impacts. Given that it is impossible to enhance the Yolo Bypass fishery flows in the legal Delta without simultaneously affecting the area outside the legal Delta, we consider impacts beyond the legal Delta for this conservation measure.

The November 2010 draft BDCP estimates that new flowage easements would be required for 21,500 acres on the eastern bypass or as much as 48,000 acres assuming western tributary flows also flooded the central and western portions of the bypass. Current documents from the BDCP working group are focused on the Fremont Weir Gated Channel operations with an impact on 17,000 acres, and most important, would inundate 7,000 to 10,000 acres in most years after March 1, which gets into the time period where flooding interferes with agricultural planting.¹

~~Garnache and Howitt (2011)² examine the economic trade-offs between agriculture and fish species in the Yolo Bypass. They look at the 8,000 acres most likely to be inundated by the bypass enhancements, and estimate roughly \$5.5 million in potential lost agricultural profits if flooding extends into late April and eliminates all crop production for the year. This lost agricultural profit roughly corresponds to \$12-15 million in agricultural revenue. They find agricultural profits start declining as flooding exceeds the mid-February period, but salmon benefit from longer inundation in the bypass.~~

~~Yolo County is working with UC-Davis on an analysis of the agricultural impacts of more frequent flooding of the Yolo Bypass for fish habitat. The study has more detailed crop, yield and price data than is currently available.³~~

The November 2010 draft BDCP estimates new flowage easements would average 25 percent of property value on 21,500 acres in the bypass, using the current agricultural revenue that implies a roughly \$7 million annual decline in crop revenue. If, as in the September 2011 discussion document, roughly 10,000 acres were flooded to preclude production in about 60 percent of years, average lost agricultural revenue could be as high as \$10 million. Thus, our rough estimate of potential lost agricultural revenue from Yolo Bypass Fishery enhancements is \$7 million to \$10 million.

¹ Potential Operation Pattern for Fremont Weir Gated Channel, or “Notch,” September 23, 2011 Draft for Discussion Purposes. Available at www.baydeltaconservationplan.com.

² ~~Garnache, C. and R.E. Howitt. 2011. “Analyzing the Trade-offs Between Agriculture and Native Species: The Case of the Yolo Bypass Floodplain.” Selected Paper prepared for presentation at the AERE 2011 Summer Conference, Seattle, June 9-10, 2011.~~

³ ~~Some preliminary modeling results are in Garnache, C. and R.E. Howitt. 2011 “Analyzing the Tradeoffs Between Agriculture and Native Species: The Case of the Yolo Bypass Floodplain.” Selected Paper prepared for presentation at the AERE 2011 Summer Conference, Seattle, June 9-10, 2011.~~

Yolo County is working with the BDCP Yolo Bypass Fishery Enhancement Working Group to develop a proposed project that minimizes or avoids impacts to existing land uses, and provides full mitigation for tax revenue and economic impacts. Like other preliminary cost estimates for habitat measures, the estimated impacts could change as plans change over time.

Table ~~122~~ Yolo Bypass Crop Acreage and Revenue, 2009⁴

Crop Category	<i>Inside Legal Delta</i>		<i>Outside Legal Delta</i>	
	Acres	Value	Acres	Value
Deciduous	73	\$314,000	0	\$0
Field	5,026	\$3,961,837	7,760	\$11,087,862
Grain	1,179	\$394,461	370	\$145,050
Pasture	4,415	\$241,030	0	\$0
Truck	1,875	\$6,321,309	1,500	\$4,634,129
Vineyard	0	\$0	0	\$0
Total	12,568	\$11,232,637	9,630	\$15,867,041
YOLO BYPASS TOTAL			22,198	\$27,099,678

6.2.2 Natural Communities Protection

The Natural Communities Protection strategy has several elements. The most significant for agricultural production in the Delta would be the conversion of 8,000 acres of grazing land to native grasslands, and the creation of nearly 33,000 acres of agricultural habitat through fee-title purchases or easement acquisition. Since grazing lands crop value is roughly \$20 per acre, the loss of 8,000 acres would amount to only \$160,000 per year. However, that measure probably understates the total impact on cattle production in the region, as this would represent a roughly 30 percent loss in the current grazing land that supports cattle production estimated at \$24 million per year. The increase in irrigated pasture that could be created through the 32,000 acres of “agricultural habitat” protection could offset this loss and thereby minimize any impact on the cattle industry.

The most significant part of this conservation strategy is the acquisition of nearly 33,000 acres in “wildlife friendly” agricultural easements. The draft BDCP does not give specific information about implementation, but offers some general guidelines that can be used to anticipate impacts. Pages 2-130-132 of the November 2010 draft BDCP identify alfalfa, irrigated pasture, and rice as crops that provide high habitat values, and orchards and vineyards as crops that provide little habitat value. Other cultivated annual crops such as corn, tomatoes, grains, and other truck crops are described as providing seasonal habitat value with high variation among crop types. The high habitat value crops generate average revenue of \$100 to \$1,400 per acre, whereas the low habitat value crop types generate average revenues of \$3,500 to \$4,500 per acre. The draft BDCP estimates the costs of land and easement acquisition of cultivated habitat at \$8,000 per acre (\$260 million for 32,600 acres) which suggests that at least some permanent crops will be targeted for acquisition given current land prices.

⁴ Yolo bypass crop production varies widely from year to year and as explained earlier, our field level data does not fields that did not have pesticide use filings (e.g. organic). Detailed studies in progress by UC-Davis will likely have more detailed and complete data.